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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

ere 46148

SEP 7 1940

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REPORT FOR WEEK ENDING SEPTEMBER 7, 1940

HAVRE:

The hot weather of the first part of the week was alleviated by a shower on the night of the third, and since then lower temperatures have prevailed.

Dry soil has so far prevented the emergence of winter wheat sown August 15 in the furrow vs ordinary drill and date of seeding project.

Husking corn and cutting stover were finished in the rotation field, corn, sunflower, and sorgo rotations, date of planting test, and corn variety project. Threshing grass nursery material and other seedhouse operations were resumed.

Activities on the farm and physical plant consisted of disking and leveling operations in Field G, and housing water line control pits around the buildings.

Maximum temperature, 103°; minimum 48°; precipitation, 0.26 inch.

JUDITH BASIN:

Climatic conditions for the week were characterized by a wind movement somewhat above normal prevailing from the southwest, threatening showers with a slight amount of ineffective precipitation on the fourth and fifth, and a range in maximum temperatures from 73° to 95°.

Farmers are seeding winter wheat in dry seed beds. Examination of fallow ground shows that the top three to four inches of soil are dry.

Station personnel activity has been centered around the construction of new sidewalks from the office to and around the Mess house, and shingling the sides of the Mess house.

Gordon Thompson, who has been taking care of the cooperative soil conservation grass nurseries at the station during the summer, returned to Bozeman the first of the week to resume his college work.

Maximum temperature, 95°; minimum, 36°; precipitation, 0.12 inch.

HUNTLEY:

Rain threatened several times during the week and one light shower was received which was of some benefit by cooling the atmosphere. Although no rain of consequence fell in this locality, neighboring benchland received enough precipitation to tempt some farmers to begin seeding winter wheat although most growers are waiting for more moisture.

Field work on the station included cleaning seed, repairing fences, weighing pasture hogs, threshing seed alfalfa, and haying. Yields of alfalfa seed were quite variable, depending upon the location of the plot and the stand. Because of the drought and hot weather much of the seed alfalfa dried up before the pods filled.

Maximum temperature, 101°; minimum, 45°; precipitation, 0.05 inch.

SHERIDAN:

Immediately following the cool weather reported last week, the first 3 days of the current week were among the hottest yet recorded here for September. The maximum temperature on the 2nd was the highest for the month yet recorded at the station and the highest recorded at the Sheridan Weather Bureau station in over 30 years. High wind prevailed on the 2d and 3d.

All the forage crops still standing were harvested the first of the week. Husking corn from the plots, which is being completed today, occupied the remainder of the week.

The low, high, and average yields of winter wheat in the rotations, and the low and high yields in the variety test for the current season, in bushels per acre, are as follows:
low, 1.3, rotation 571, winter wheat continuously stubbled-in; high, 28.7, rotation 132, after sweetclover plowed under for green manure; average on winter wheat stubble, 5.2; on oats stubble, 9.8; on corn stubble, 16.0; on fallow, 24.0; and after green manure, 22.2. In the varieties, where there was one more beneficial rain during the season than on the rotation field, Minturki was low, 31.5; and one 3-plot replication of Cheyenne was high, 39.4.

Maximum temperature, 102°; minimum, 49°; precipitation, none.

MANDAN:

Arboriculture: Removal of dead wood from caragana hedges and the main windbreak was carried on during the week. A heavy infestation of borers is present in Chinese elm in the main windbreak. Ash borer injury seems more severe than in previous years. Cedars planted in permanent plantings last spring are now showing the effects of drought, and losses are likely if rain is not received in the near future. Stands are practically 100 percent at this time.

Horticulture: Horticultural plantings are suffering from the long continued drought. Heavy yields of plums and crabapples are being recorded, but the quality of later maturing varieties has not been up to standard. Hot weather and drought brought about premature ripening in many cases. Heavy winds for two days during the week caused much dropping of fruit, especially apples. A few new selections of plums and crabs were made and propagated.

Fair crops of vegetables are being harvested from the acre garden. The variety test of tomatoes and watermelons was picked, and beans from the acre garden were threshed.

Agronomy: The week was hot and dry with high winds. Fall plowing has been delayed in hope that a good rain might occur. The rainfall for August was 0.25 inch. The total for the year to August 31st was 11.78 inches. The 25-year (1914-1938) for the same period was 12.07 inches, and the 65-year average for this area 13.08 inches. Soil remains too dry for early fall seeding of grasses.

Maximum temperature, 98°; minimum, 53°; precipitation, none.

BELLEFOURCHE:

No precipitation was received during the week, and the weather was abnormally hot for September. Corn is drying ripe very rapidly, and most of the grain apparently will mature if frost is delayed another two weeks. Potato vines are beginning to turn brown. Sorgo was harvested.

Maximum temperature, 96°; minimum, 57°; precipitation, none.

ARCHER:

The weather was warm during the first and last days, but cool during the middle of the week. During the cool period two showers totaling 0.49 inch occurred. Due to the showers and cool weather since August 20 the grasses have greened up and good stands of winter cereals have been obtained.

Station activities consisted of painting buildings and putting up silage.

Maximum temperature, 92°; minimum, 50°; precipitation, 0.49 inch.

NORTH PLATTE:

There has been considerable change in atmospheric conditions, but no rain of consequence. The only clear morning during the week occurred today. Fog and mist have persisted on several days until afternoon. Alfalfa cut early in the week is still in the windrow. Most of the first and second cuttings was stacked the day after cutting.

Irrigated corn and sorgo are maturing rapidly, and ensilage machinery has just been started. Dry land potatoes have been harvested. They were complete failure on cropped land. On fallow the yield was about 50 bushels per acre, practically all culls. Final preparations for winter wheat seeding will be made during the coming week. There is little prospect of germination until rain is received.

Maximum temperature, 89°; minimum, 58°; precipitation 0.22 inch.

AKRON:

With the rainfall reported last week, August passed with 1.68 inches of precipitation. The term average is 2.13 inches.

Harvesting corn and seeding fall grains have been actively in progress the past week. Nearly all rotation corn plots are now harvested. Corn was also harvested from land to be used for winter wheat variety experiments. Rotation green manure rye plots were seeded Tuesday and the winter wheat Friday. Chance for prompt emergence is excellent, but plots which grew a crop the past season do not have enough soil mosture to carry the plants along for any great length of time. On the other hand there is now an excellent chance to get winter wheat up and well rooted on fallowed land. On such land there is 36 to 48 inches of stored soil moisture, all stored from the nearly 12 inches of rainfall received up to June 6.

Early grain sorghums seeded June 24 are now in soft dough stage and in excellent position to mature. Highland and Improved Coes look much better in this planting than in the variety experiment seeded June 11. In the latter, the milos and H.C. 336 now look the most promising but in the past Highland and Improved Coes appearing poorer in the field have actually yielded more grain.

T. G. Steward and D. W. Robertson were here Wednesday discussing a sorghum field day which was set for the afternoon of September 18. R. L. Cushing and Noel Hanson of the Nebraska Station inspected the sorghum plantings Thursday. Alvin Kezer of the State College visited Friday.

Maximum temperature, 93°; minimum 54°; precipitation, 0.08 inch.

COLBY:

The rainy weather that has prevailed most of the time since the last of July, continued this week. Precipitation in the form of scattered showers and rains was recorded on three days. Rains have now fallen generally over this section of the State, but there has been no general rain. Every time precipitation has fallen recently it has been very heavy in places and very light in other places close by. The surface soil is moist enough for seeding over most of this section of the State, but there are still fairly large areas where this is not the case.

The largest crop of milo in the history of this area is maturing under favorable moisture and temperature conditions. Most of the acreage is Colby. The forage sorghums are also making excellent growth. Corn remains green in spots on most fields, but will produce very little grain. Weeds are making rapid growth and are coming up everywhere in bare fields and stubble fields. There is also a heavy growth of volunteer wheat and barley wherever the ground has been worked since harvest. A large acreage of both bound and loose barley still remains in the shock, as the frequent showers keep the straw damp.

On many farms seeding wheat is finished or nearly so. Early seeded wheat came up more promptly and is making more rapid growth than for years. Many fields will soon be big enough for pasture .

Maximum temperature, 94°; minimum, 56°; precipitation 0.76 inch.
Precipitation, August, 3.41; 53-year average, 2.25 inches.
Precipitation, January 1 to August 31, 1940, 11.55; 53-year average, 13.71 inches

HAYS:

The weather has been generally cloudy but warmer than during the past two or three weeks. Threatening storms have approached on several occasions but disappeared without leaving any moisture in this vicinity except one 0.06-inch shower. It generally cleared at night and dews have occurred most every night. Within a short distance of Hays, however, several good local rains have occurred.

Corn, sorghum, and other feed crops on the plots and on commercial fields as well are drying up rapidly except in low spots where the crop has benefitted by some run-off from higher portions of the field.

Maximum temperature, 99°; minimum, 63°; precipitation, 0.06 inch.

GARDEN CITY:

Only two light showers which totaled 0.11 inch were received this week. The week in general was warm, and the sorghums are heading rapidly. Heading was delayed in August, partly due to cool temperatures. Some of the plots are needing moisture badly and have produced only a few small heads. The milo up and down the slope on the Basin Lister Project is in much better condition than milo on ordinary listing up and down the slope. The latter has burned considerably. Milo in 88-inch rows on continuously cropped ground is farther advanced and is in as good condition as that in 44-inch rows on fallow. Sorghums south of the sand hills are in excellent condition and should produce bumper crops. Some of the fields along the valley are needing moisture.

Field work consisted of hoeing weeds, cultivating weedy plots, and taking soil moisture samples.

A group of approximately fifty U.S.D.A. men visited the station on a grass tour. M. A. Bell, Woodward, Okla., B. F. Barnes, Dalhart, Tex., and D. R. Burnham, Tucumcari, N. Mex., were with the group. Other station visitors were Dr. John H. Martin, Washington, D. C. and Dr. John H. Parker, Manhattan, Kans.

Maximum temperature, 95°; minimum, 62°; precipitation 0.11 inch.

DALHART:

Three showers, totalling 0.74 inch, furnished only a short relief from the drought conditions. Heading was arrested on the rotation plots and complete heading cannot occur unless other moisture comes. It is now too late for grain to mature should additional heads emerge.

The earlier heads are now showing color where the bird damage has not been complete. Cowpeas do not seem to be making much growth. This is due to a shortage of moisture. The late plantings are now showing head emergence. Sorghums planted on July 23 and later now have a good color.

Maximum temperature, 95°; minimum, 60°; precipitation, 0.74 inch.

TUCUMCARI:

Temperatures of the past week were higher than in a month, and, combined with high winds on two days and no precipitation, served to dry the soil very rapidly. Crops which responded greatly to the rains totaling 3.54 inches in August are again in need of rain.

Late sorghums promise fair yields. Early sorghums have been injured very severely by drought and birds. Lark buntings were never so numerous on the station as during the past week.

Work during the week included pulling and seeding broomcorn, harvesting cowpeas and Sudan grass, final picking of grapes, and hopelessly attempting to reduce bird attack on sorghum plots.

W. M. Osborn of the Lawton station visited the station.

Maximum temperature, 96°; minimum, 60°; precipitation, none. Precipitation since January 1, 9.39 inches, or exactly 75 percent of normal for this period.

BIG SPRING:

Good rains have been reported a short distance South and East of here on two occasions during the past week, but the station remained dry. A total of 0.19 inch was received from two showers, while other parts of the county were reporting from 1 to 3 inches.

Station crops generally are suffering from lack of soil moisture. Cotton is wilting and starting to open prematurely, while many milo plots are burning to the point where heads will not be developed.

Good rains were received in early August, but their value was rather short lived as there was no subsoil moisture to help them.

A light second cutting of Sudan grass was harvested from the plots and an increase field during the week. Other work consisted of hauling cowpea hay and picking cowpea seed from the varietal plots.

Maximum temperature, 95°; minimum, 60°; precipitation, 0.19 inch.

WOODWARD:

Although moderate or heavy rains occurred at numerous places in this general area, precipitation at the station has been extremely light, totalling only 0.19 inch. Temperatures for the most part were equable and the wind movement relatively low, but vegetation in general shows the detrimental effects of long continued drought.

Listed plots in the D.L.A. winter wheat projects were levelled and increase wheat fields were cultivated for weed control. Row sorghums are firing badly and many plots appear to be damaged beyond recovery. There is some irregular heading on fallow. Little or no forage will be obtained from early planted Sudan grass and sowed feed.

Late plantings of certain vegetables in the irrigated garden emerged with good stands. The last of a very light grape crop was harvested recently. Vineyards and windbreaks received a cultivation during the past week. Potted greenhouse shrubbery cuttings were lined out in the nursery. Crepe myrtle hedges have reached maximum bloom, being especially attractive. Dry Land testing blocks for the most part are holding up quite well in spite of the drought.

Weeding and cleaning up grass plantings comprised most of the activities in the forage project. Road culverts have been put in across several drainage courses. Weeds were mowed and raked in the vicinity of the main reservoir and a sand bar, probably caused by low water, removed from near the reservoir outlet.

A number of visitors inspected work of this station prior to the start of the Southern Plains grassland tour from here on September 1.

Maximum temperature, 100°; minimum, 60°; precipitation, 0.19 inch.

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REPORT FOR THE WEEK ENDING SEPTEMBER 14, 1940.

HAVRE:

Dry weather, with temperatures averaging 8° above the station normal, and only moderate wind movement characterized the week.

In the experimental field the work was largely fall plowing and soil moisture sampling. The soil is very dry and extremely hard, necessitating changing lays every half day. The work in the seedhouse was confined to completing threshing of the grass nurseries.

The general farm work consisted of hoeing out escaped weeds on the fallow strips. The harvesting of the Ladak alfalfa seed crop is in progress. This field had all the blossoms removed at least once by the blister beetles this summer, but still a fair seed crop is expected. Contour seeding of crested wheatgrass was started on the east hill pasture where there is a very poor stand of native grass. This is being done with a deep furrow drill without previous work on the sod. Experimental results here indicate it is possible to "sweeten up" grass stands by this method where the vitality of the native sod is rather low.

Maximum temperature, 89°; minimum, 38°; precipitation, 0.03 inch.

MOCCASIN:

The only indications during the week of a reprieve in the drought conditions were a few threatening showers with no effective precipitation and some partly cloudy days. Conditions remain unfavorable for planting winter wheat, although most of the winter wheat has been seeded in this area, and in a few fields it is up but looks very spotted and weak.

Station activity continued to be centered around the construction of new sidewalks and shingling of the messhouse. The corn on the rotations was cut. A number of the plots were completely destroyed by hoppers. No fall grain has been seeded as yet at the station.

A large number of farmers were visitors of the station during the week seeking information regarding different crops, sources of good Yogo and Karmont winter wheat seed, and what the station recommendations would be as to time of seeding fall grains this year.

Maximum temperature, 85°; minimum, 43°; precipitation, 0.06 inch.

HUNTLEY:

Dry weather continued throughout the week but somewhat lower temperatures made conditions less oppressive. The minimum temperature at the station was 35°, but nearby farms reported frost and light coatings of ice on water troughs.

Some winter wheat is being sown on benchland farms; but soil moisture conditions are at present very unfavorable for uniform early germination, and most seeding is being delayed until rain is received. Because of hail damage to large acreages of winter wheat about mid-season it now appears much of the fall seeding will be on hailed-out stubbleland. Some of this land is already showing a fair stand of volunteer wheat.

Station field work consisted of hauling in the last of the hay and harvesting corn in the hybridization blocks.

Maximum temperature, 92°; minimum, 35°; precipitation, none.

SHERIDAN:

A light drizzle stopped field work for one day the first of the week but did not furnish moisture of any consequence otherwise. Fair weather prevailed over the remainder of the week. Average temperatures were lower than at any time since the first of June but still continued above the seasonal average.

All corn, both stover and grain, and all forage sorghum from plots were hauled and weighed. Grain sorghums continue to ripen, and the ripe heads were cut from several sections of all varieties.

R. M. Williams was a station visitor on the 13th.

Maximum temperature, 91°; minimum, 37°; precipitation, 0.20 inch.

DICKINSON:

The first killing frost of the season was recorded on September 10, about 5 days earlier than the average. The temperature dropped to 26°, killing most tender vegetation that had continued growth until this date. Most all field crops and other vegetation had matured as a result of the dry weather and high temperatures.

The soil is becoming extremely dry, as there has been only 0.40 inch precipitation during the last six weeks.

The last of the corn and the sorgo and grain sorghums were harvested.

Late varieties of fruit were picked. Practically all plums are harvested, but there still remain a few late varieties of crabs to be picked.

Crested wheatgrass seed was cleaned. The seed is of a good weight and high germination although yields were below average.

Maximum temperature, 85°; minimum, 26°; precipitation, trace.

MANDAN:

Arboriculture - Inventories have been taken of coniferous and deciduous nursery stock which will not be dug until next spring. A gully across the main windbreak which carries the run-off water from the yards and buildings has been sodded with western wheatgrass sod. Considerable brush has been hauled to the dump grounds.

Horticulture - Most of the late maturing varieties of plums and apples were picked during the week. Due to the continued drought many varieties ripened prematurely and were not up to standard in size and quality. Yields were generally heavy. Several of the new Canadian apples bore fruit for the first time at the station. Winton, a red variety, looks promising. Sel. 28-10, a green variety, bore a good crop of pleasant tasting fruit. Fall notes are now being taken, including height, spread, and diameter measurements of orchard trees.

Onions, squash, pumpkins, and melons were harvested from the acre garden during the week. In spite of the drought there was a good yield of all these crops, especially of onions. The recent frost put a finish to tomato and melon plots. Root crops are still holding their own, but late cabbage is suffering from the prolonged drought and the crop will be light and of poor quality. Canna beds on the grounds were severely damaged by the recent frost, and even geraniums suffered some damage. Taking cuttings and potting in the greenhouse of geraniums and coleus has been in progress during the week.

Agronomy - The week was cool and dry. A light rain fell early in the week. The first killing frost of the season occurred during the night of the 11th when the temperature dropped to 28°. There was a heavy frost during the night of the 10th, when garden truck was frosted. The frost-free period was from May 14 to September 11, or 120 days. The average date of the last frost in the fall is September 25. Fall plowing in the rotations was completed during the week. Seeding of winter rye is being delayed as the soil is so dry, there is no chance for germination.

Maximum temperature, 85°; minimum, 28°; precipitation, 0.25 inch.

ARCHER:

The weather during the first two days of the week was warm. The remainder of the week was cool and humid with some precipitation. These conditions in connection with the precipitation of the previous week caused the seeded winter cereals to emerge and the prairie grasses to green up. Soil moisture is sufficient, even on stubble land, for some time.

The early fall seedings of grass on the methods of seed-bed preparation and methods of seeding with different species of grasses were completed during the week. The last weighings of the sheep in the pasture experiment were made, and the grass clipping crew is at work. The last of the silage is being put up today.

Maximum temperature, 91°; minimum, 39°; precipitation, 0.53 inch.

NORTH PLATTE:

A maximum temperature of 100° was recorded last Saturday and Sunday. A light shower fell on Monday, and temperatures dropped to near the freezing point during Tuesday night. Freezing temperatures were reported across the State and a minimum of 32° was recorded at the bench station and 39° at the table station. Some damage was reported to immature corn and sorghums in the State. Warm and fair weather prevailed during the last half of the week.

The few remaining corn plots were cut and shocked. A few of the corn plots harvested two weeks ago were weighed. They contained only a few nubbins and no grain weights were taken. The Early Kalo on the cropped plots was also harvested.

Some wheat has been seeded in this part of the State, but most farmers are waiting for moisture to germinate the seed before they plant.

Maximum temperature, 100°; minimum, 39°; precipitation, 0.12 inch.

COLBY:

Sunday was very warm and sultry, but Monday and Tuesday were rainy and much colder. On Wednesday morning the minimum temperature was 43°. Since then it has been dry and increasingly warmer.

All crops are making excellent growth. On the station volunteer barley on ground oneweyed after harvest is beginning to head. The sorghums which had been stunted almost beyond recovery in July are now beginning to head. Corn which did not completely dry up remains green. Wheat seeding is nearly completed.

All the plots to be seeded to winter wheat, except those to be stubbled in, were rod weeded Thursday. All had become weedy during the prolonged rainy spell, mostly red root, stink grass, purslane, volunteer wheat and barley, and scattering thistles. The fall-worked plots for spring small grains were also gone over as they were very weedy. The winter plots have been staked and the late plowed plots are being plowed, preparatory to seeding this coming week.

Maximum temperature, 94°; minimum, 43°; precipitation, 0.12 inch.

HAYS:

Maximum temperatures of 100° the first of the week were followed by lower and much more comfortable temperatures the middle of the week, and with a quiet cloudy Saturday dampened by light sprinkles of rain.

Row and drilled feed crops suffered from drought throughout the week. Within the same fields the stage of development varies from heads attempting to emerge to heads nearly mature. In many cases the leaves are dry and beginning to drop, and in some cases the crop is beginning to lodge because of the limpness of the stalks. Thus far, no lodging has occurred on the Dry Land project, but the leaves are dry and development of the grain is very slow. On many plots there will be very little grain.

Sorghum Field Day was held on the Experiment Station September 13. About 100 visitors were present.

Dr. Frederic E. Clements from the Carnegie Institute, visited the Experiment Station today (Saturday).

Maximum temperature, 100°; minimum, 37°; precipitation, 0.02 inch.

GARDEN CITY:

Precipitation this week amounted to only 0.05 inch. Maximum temperatures ranged from 64° to 95°. The minimum temperature dropped to 43° on the night of the 10th.

Sorghums declined rapidly during the week, and some of the plots are burning, particularly those on cropped ground. Considerable wheat has been seeded in this area and much of it is already up. However, many of the farmers have stopped drilling and are waiting for a rain.

Soil moisture samples were taken on some of the milo plots, and cowpeas were cut for hay. This year's yield of cowpeas appears to be the highest in several years.

Maximum temperature, 95°; minimum, 43°; precipitation, 0.05 inch.

TUCUMCARI:

The week continued warm with the exception of Wednesday when a norther resulted in a drop of some 30°. No precipitation has fallen this month, with the 9.39 inches received thus far this year totaling 74 percent of normal for the period.

Range grasses are in full head and offering good promise of excellent winter feed. Sorghum crops are spotted and generally poor.

Work of the past week consisted of preparing and seeding wheat and rye plots, harvesting and hauling cowpea hay, mowing weeds, and making stalk counts on sorghums.

Maximum temperature, 96°; minimum, 52°.

DALHART:

Two showers, totaling 0.13 inch, furnished no relief to the sorghum crops. While the row crops on the station have deteriorated but little, except corn which is drying rapidly, they did not completely head. The early heads were severely damaged by birds, the later heads, and there are but few of these on some plots, are setting grain normally. This process of making near-normal grain is in distinct contrast to the formation of shriveled grain on plants which grow normally until after heading.

This particular area, or dry spot in an area devoted to sorghums, is fully as hard hit as in 1933 or 1934. In 1933 there was no moisture for germination of sorghums, but there were August and September rains which gave opportunity to a few farmers to seed wheat and rye for pasture. In 1934 there was a small amount of feed raised on the reserve from the fall rains in 1933. This past week conversations with some 5 or 6 farmers and ranchmen in this area elicits the general confession that this year has hurt them the hardest from a feed standpoint. There are reasonably good crops in the adjacent territory so that a feed shortage is not imminent.

Cowpeas on the station emerged late and have made but droughty top growth. The late planted sorghums (planted July 23) are just now reaching the fully headed stage. They are short and can make but little grain or forage. The late planted Sudan grass will make good, short bundles.

Maximum temperature, 94°; minimum, 49°; precipitation, trace.

BIG SPRING:

Temperatures have dropped considerably during the past week, but precipitation has been noticeably lacking. Most of the May 15 date of grain sorghums have matured fair grain yields, but the forage sorgos in this date were burning so that it was necessary to harvest them although they had not headed to any extent. Indications are now that the later dates will yield very little grain and at the best much less than the first date. The foliage in most of the sorghum plots in the rotations is burning while the grain in the heads is still soft.

A block of hegari was harvested during the week although it contained very little mature grain. Other work consisted of cleaning out the trench silo preparatory to filling and in hauling in the second cutting of Sudan grass from the plots.

Maximum temperature, 96°; minimum, 53°; precipitation, none.

WOODWARD:

Drought continues to prevail. High temperatures early in the week were succeeded by a relatively cool period with warmer conditions again at the close. A maximum of 102° on Monday afternoon was followed by a minimum of 44° Wednesday morning.

Cowpeas for green manure in the D. L. A. project were plowed under, and the hay plots were harvested to prevent further loss of leaves. Scarcely any pods formed this year. Six kafir plots and one of broomcorn were also cut to save stover remaining. The first date of planting winter wheat and barley was made in a seed bed too dry for uniform germination.

Completion of the nursery stock inventory shows approximately 500 species, varieties, and sources of trees and shrubs are in the seed beds and about 1,800 in the nursery. Lack of green feed nearby necessitated fencing nursery blocks of Ulmus pumila to prevent damage by rabbits.

The grass nursery and several increase blocks received an irrigation. Cutting Sudan grass cover is in progress, and a fair crop of switch grass, Panicum virgatum, was bound for seed. Roadways have been elevated over several drainage courses where new culverts were recently installed. Some additional water will now be available from the main reservoir through an outlet pipe extending into the deeper part of the lake and supported by pontoons.

Station visitors included Dr. F. E. Clements, Carnegie Institute; H.J.Haas and A.E.Lowe of the Garden City Field Station; and A.H. Trowbridge, Predator and Rodent Control Division, Dept. of the Interior.

Maximum temperature, 102°; minimum, 44°; precipitation, 0.09 inch.

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SEP 21 1940

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REPORT FOR THE WEEK ENDING SEPTEMBER 21, 1940.

HAVRE:

Very pleasant fall weather prevailed during the week, temperatures being about 10° above normal and only slight wind movement. A light shower on Friday night brought the precipitation for the month to 0.42 inch.

A very difficult job of fall plowing was completed in the experimental field. Clods as big as wash tubs were turned up. The fields that are to be seeded this fall were worked down.

The beef cattle herd at the Bear Paw lease were weighed and moved to a new pasture. During the past 40 days the calves have gained an average of 2 pounds a-day and the cows 1 pound per day. The corrals were re-arranged and repaired.

The farm work consisted largely of seeding winter wheat and crested wheatgrass and completing cutting and cocking the Ladak alfalfa seed crop and a new wilt resistant strain of red clover for seed. About 100 acres of crested wheatgrass was seeded on pasture land where the vitality and stand of the native grass was very poor.

John J. Sturm left this weekend to resume his college work at Bozeman.

Maximum temperature, 77°; minimum, 49°; precipitation, 0.13 inch.

MOCCASIN:

Two small showers during the week totaled 0.36 inch precipitation, about twice as much as during the entire month of August. Temperatures were about normal for this time of year with very little wind movement.

Seeding of the Cereal winter wheat nursery has been completed except for the bunt experiment. Rotation and tillage plots were finally seeded to Yogo winter wheat. Potatoes are being dug, and yields are low with some plots failures.

Other station work consisted of painting buildings and completing the running of the concrete walks.

The college graduate assistant in charge of the Cereal work and other student assistants have returned to Bozeman to continue their school work.

Maximum temperature, 79°; minimum, 44°; precipitation, 0.36 inch.

HUNTLEY:

Weather continued dry during the week until the evening of the 20th when a light rain began to fall, continuing at intervals throughout the night. Although it amounted to only 0.14 inch and was of little benefit to crops or seedbeds, it was the most rain that has fallen in any one shower since June 22.

Work on the Dry-Land project at the station consisted of cleaning and treating seed grains, cutting stalks on the hybrid corn and seed-corn blocks, and completing tillage on winter wheat seedbeds.

Maximum temperature, 91°; minimum, 45°; precipitation, 0.14 inch.

SHERIDAN:

Moderate temperatures, with some cloudiness and a very light drizzle, characterized the weather for the week. Field work consisted mainly in picking some bulk corn, and heading the grain sorghum varieties that were ripe. Russian thistles were cleared from plots to be plowed, and plowing of the rotations is now in progress.

Maximum temperature, 87°; minimum, 41°; precipitation, 0.04 inch.

DICKINSON:

Unseasonably high temperatures continued until the end of the week when it became somewhat cooler. There was no precipitation.

The winter wheat and rye were seeded on the rotations September 16. The soil is so dry that there is little prospect of germination this fall unless a good rain comes during the next month.

Corn on the rotations is being husked. Yields are better than were estimated earlier. The best plots probably will yield around 40 bushels to the acre, but there will be some low yields particularly on fall plowing. Corn generally has produced an excellent yield through the district.

Maximum temperature, 88°; minimum, 40°; precipitation, none.

MANDAN:

Arboriculture - Taking fall notes in the experimental tree blocks has been carried on the entire week.

Horticulture - Fruit harvesting has been completed. In spite of the dry weather of late summer and early fall, record yields of apples, crabs, and plums were produced. The plum variety orchard yielded higher than in the previous high year of 1932. Apples and crabs in the variety test also yielded higher than the previous high of 1939. Many new varieties fruited for the first time, and some look very promising. Plums were treated for plum borers during the week. The soil is very dry, which may lead to severe winter injury, especially if the trees have weakened themselves by bearing heavy crops of fruit.

Harvesting and curing of ears from the sweet corn breeding plots was carried on during the week. The season was on the whole favorable for this project. Weaknesses and smut susceptibility showed up in a number of strains permitting the rogueing of these for future work. Only a very few strains were practically smut free. The recent long period of dry weather caused thorough ripening, and a good supply of hybrid and inbred ears are on hand for next spring.

Agronomy - The week was dry with some warm days for this time of year. Winter rye has not been seeded to date, as there is no chance of growth under present conditions. A start has been made on corn shredding.

Maximum temperature, 92°; minimum, 53°; precipitation, none.

BELLE FOURCHE: (Report for the two weeks ending September 21, 1940.)

Light frost occurred in low areas on September 9 and 10, killing the leaves of tomatoes, potatoes, and corn and injuring other tender crops. Practically no damage occurred on the higher land, and minimum temperatures of only 33° and 34° were recorded. Warm weather favorable to the ripening of corn prevailed throughout the remainder of the period. Most of the corn has matured sufficiently to escape serious injury from frost, and some of the plots have been harvested.

The sky was frequently overcast with threatening clouds during the past week, but the showers never materialized into more than a few drops of rain. Only 0.01 inch precipitation has been received in September to date, and the soil is so extremely dry that seeding of fall grain is being delayed.

Visitors included E. J. Maynard, Great Western Sugar Company, Billings, Mont.; and Dr. John H. Martin, Division of Cereal Crops and Diseases.

Maximum temperature, 87°; minimum, 33°; precipitation, 0.01 inch.

ARCHER:

The weather during the week ending September 21 was cool and humid with local showers and, at times, fog. These conditions were favorable for plant growth. The native and seeded grasses have improved, and beans have put on a new crop which at this late date is, for the most part, just past the snapping stage. Late planted potatoes have made good growth, and Sudan grass is making a second growth. Winter cereals are in an excellent condition and 20 acres of corn ground which normally would have been seeded to spring cereals have been seeded to winter wheat.

Station activities consisted of harvesting the last of the corn crop, seeding winter wheat in the dairy field, and painting some of the buildings.

Maximum temperature, 81°; minimum, 48°; precipitation, 0.63 inch.

NORTH PLATTE:

Maximum temperatures over 90° were recorded nearly every day during the week. Little more than a trace of precipitation fell. High winds on Wednesday caused considerable soil movement. A sorghum and hybrid-corn field day was held on this day with good attendance, although the weather was very disagreeable.

No wheat has been seeded as yet. All the corn plots to be seeded to wheat this fall were disked during the week. The soil was too dry to do a good job of disking. The harvesting of the sorghum variety plots has been started. Those varieties on fallowed land will make a fair yield while those on land previously cropped to oats are poorly headed.

A 4-acre field of Hardistan alfalfa was threshed this week and averaged about nine bushels of cleaned seed per acre. This is an exceptional yield for alfalfa and especially of this variety which usually is relatively low in seed production.

Approximately 100 secretary-treasurers and field men of the Federal Land Bank visited the dry-land project Friday morning, and the afternoon was spent in a discussion of dry land cropping practices with the station staff and men from the College of Agriculture.

Dr. John Martin visited the station on Friday.

Maximum temperature, 94°; minimum, 52°; precipitation, 0.04 inch.

AKRON:

Winter wheat seeded the 9th has emerged to nice stands on all preparations except the late fall-plowed stubble land. Beans set some pods following the rains beginning September 23 and are now ripening. Harvesting of this crop has received attention. The remainder of the rotation corn and the rotation forage sorghum plots were harvested. Harvesting has also been in progress in the sorghum variety experiment.

About 300 people gathered at the Station Wednesday afternoon for a study of the sorghum experiments. This event was sponsored by the State Extension Service.

Sorghums about the country side are generally late because of reseeding and are very slow in ripening. Many will need at least another week to ten days, but the average fall frost date is only a week away. There is a large acreage of sorghums reported this year.

Maximum temperature, 86°; minimum, 50°; precipitation, 0.01 inch.

COLBY:

The weather this week has been mostly cloudy with almost no precipitation but windier than preceding weeks for nearly a month. The temperatures ranged appreciably higher than last week. It was windy all day Wednesday with considerable soil blowing on bare fields.

The sorghums are beginning to color fast, as they are apparently running out of moisture. On some of the continuously cropped plots they are wilting and drying badly.

The winter wheat plots were seeded Tuesday. Almost a quarter-inch of rain on Monday wet the surface enough so that the seed bed was moist on all plots. On the stubble plots, which had a growth of thistles, the late fall plowed plots, and the corn and milo plots there was probably not enough for prompt germination, especially since the weather has been fairly windy much of the time since. On the fallowed and early worked plots the wheat is beginning to show through today in spots. The soil was just loose enough for good penetration and coverage by the drill. Soil samples were also taken. Moisture is down about 3 feet on fallow, 6 feet on 2-year fallow, and 1 foot on cropped land, if clean.

Grasshoppers are working along the edges of fields where there are any weeds nearby. The early planted fields do not seem to be bothered, but wheat emerging now or within the last two weeks seems to be to their liking.

Maximum temperature, 90°; minimum, 54°; precipitation, 0.25 inch.

HAYS:

The weather has been warm and dry and partly cloudy.

The sorghum crops are gradually drying up. The best of them are maturing some grain.

The kafir on the project was harvested during the week. The harvesting of the sorghum crops for silage was commenced on the general fields.

Except for a narrow strip extending several miles west of Hays and a few scattering fields in this vicinity, most of the wheat has been seeded in this area. The wheat that was drilled first is all up to a good stand. On the later drilled fields the stand is slightly spotted due in most cases to shallow covering of the seed.

Grasshoppers are causing some damage to the wheat around the edges of the fields. The amount of damage varies from a few drill rows to strips four or five rods wide.

Farmers practicing strip-fallowing for wheat, resulting in many miles of border, are experiencing some discouragement at this time. I have not had opportunity to observe results closely, but it has been reported to us that in some localities the grasshoppers have already damaged a large portion of the strips of wheat. That, of course, is one of the hazards to be expected from strip cropping of wheat in an insect infested area.

Maximum temperature, 100°; minimum, 50°; precipitation, 0.12 inch.

GARDEN CITY:

Rain threatened several times during the week, but only very light showers were received. Temperatures were warm and wind velocity was rather high on two days, but very little dust was in the air.

Milo continues to decline and burn, but the kafir has nearly all headed and if frost is late it should produce fair yields. The grasshoppers are causing considerable damage to wheat which has emerged. In Greeley County, which is noted for its large acreage of strip cropping, considerable damage has been done. Those fall-sown strips which have clean wheat stubble or clean sorghum on either side, are injured only slightly, whereas those which have weedy stubble or weedy ground near are damaged considerably. Many of the farmers are planning to discard strip cropping next year because of the hopper damage.

Station visitors were L. P. Reitz and E. G. Heyne, Kansas State College; A. F. Swanson, Fort Hays Station; and Bruce Stinson, Superintendent of the station at Tribune.

Maximum temperature, 95°; minimum, 59°; precipitation, 0.02 inch.

TUCUMCARI:

Unusually warm weather marked the past week, and sorghums fired as the result of drought. Rain would still be of material aid to late row crops as well as to ranges and wheat acreages. A considerable acreage of wheat remains to be seeded, much has been dusted in, and in some instances excellent stands have emerged, the condition depending upon land treatment and neighborhood rainfall.

Harvesting of cowpeas, broomcorn, corn, and Sudan grass comprised the week's station work. Unless lodging occurs as the result of drought, no sorghum harvest will be undertaken for some time.

Maximum temperature, 96°; minimum, 53°; precipitation for the week and month to date, 0.17 inch. Deficiency since January 1, 3.6 inches.

DALHART:

It becomes increasingly difficult to properly explain crop conditions when rather uniform drought has extended through eight consecutive crop years. This year, with never sufficient moisture available for lush growth, prospects through the third week of August were such that one was justified in hoping for a normal yield should average rainfall come beginning with that period. Crops of sorghums seeded at the normal 'best' date nearly reached a fully headed stage when the available moisture was restricted. Since that date insufficient moisture has been received for normal plant growth for sorghums and, strange as it always seems, some of the earliest heads will make grain. The yields naturally will be light, with many of the rotation plots having a total failure.

For the dry years since the station has been operated (beginning with 1908) this year closely parallels the crop years of 1913 and 1934. Precipitation for each year was rather uniformly distributed but with insufficient amounts to make a yield. The crop year (for effective moisture) is considered to be from October 1 of the preceding fall to September 30 of the current crop year. A table is shown for the dry years at this station where the amounts of rainfall have been comparable. The yields given are the average yields of the rotation milo plots for the years considered.

Year	Precipitation for the period Jan. to Sept.30 Inches	Oct. 1 to Sept.30 Inches	Yields of Milo (Ave.for the rotation plots) Bushels
1913	8.54	8.62	1.7
1917	9.46	10.08	8.7
1933	8.48	10.33	0.0
1934	7.98	9.64	2.1
1936	9.43	11.03	2.0
1940	*7.69	*9.50	?

* These include September 21 only.

In 1917 there was more August precipitation than this year.

In 1933 there was insufficient moisture for emergence and growth.

In 1936 there was no moisture of consequence after July 1.

The purpose of the above table is to show the present crop prospects. As pointed out above, this year is rather closely comparable with 1913 and 1934. The year 1934 was the driest on record. Incidentally the precipitation this year closely parallels 1934 -- both have practically identical precipitation to this date.

Maximum temperature, 95°; minimum, 55°; precipitation, 0.19 inch.

BIG SPRING:

The dry, warm weather, which has prevailed during the past week has hastened the opening of cotton. All sorghums are prematurely ripening, and the foliage is burning on many to the extent that it will be necessary to harvest them next week.

About 90 tons of Sumac silage was cut and put in the trench silo during the week to be used in the cattle feeding experiments this year. Other work consisted of picking cotton in the varieties. These have opened so rapidly during the week that it is estimated that about half of the seed cotton is being obtained in the first picking.

Station visitors included J. M. Jones, Chief of the Animal Husbandry Division of the Texas Experiment Station.

Maximum temperature, 99°; minimum, 63°; precipitation, none.

WOODWARD:

Clear skies, above normal temperature, and considerable wind movement typified the weather during the week. Native range in this locality is very depleted due to the drought, and with insufficient soil moisture for the germination of fall-sown grains, prospects for pasture from that source are also poor. Sowed feed and even row sorghum will furnish but very little forage.

The first picking of cotton yielded 110 pounds per acre after kafir and 55 pounds following wheat. Ear corn production varied from 5 to 180 pounds per acre, the best yield being obtained on the MCC fallow plot. Twelve badly fired kafir and broomcorn plots were harvested with a binder to save the stover. The September 15 planting of wheat on fallow shows very spotted emergence.

Nurseries, seedbeds, lawns, tomatoes, and portions of the vegetable garden were irrigated. Seed of certain perennial species was collected. Deadwood is being removed from older deciduous trees along the north side of the campus.

An extensive exhibit of grasses prepared by the forage crops staff was displayed at the Woodward County Fair attracting considerable attention. A preliminary rodent survey made by the Predator and Rodent Control Division of the Interior Department indicates that considerable damage to various forage species has occurred at the range unit. The boundary fence around the experimental tract is practically completed.

Maximum temperature, 98°; minimum, 59°; precipitation, trace.

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DRY LAND AGRICULTURE

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U. S. DEPARTMENT OF AGRICULTURE

APR 46148

SEP 23 1940

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REPORT FOR THE WEEK ENDING SEPTEMBER 28, 1940.

HAVRE:

Precipitation during the latter part of last week and the earlier part of this week totaled nearly three-quarters of an inch at the station, but the station had less rain than the surrounding country.

Work in the experimental field consisted of seeding winter wheat varieties, winter wheat nursery, winter rye, and crested wheatgrass in the plots as well as on virgin sod. A small plot of ground was broken up in the corner of the south pasture, called the E-2 field, for a test on Michels' grass versus crested wheatgrass for spring grazing.

The rain has made possible some fall plowing in the G alfalfa field. Owing to wet weather some difficulty is being experienced with the alfalfa cut for seed. Heavy dew and fog practically every night is hindering the curing of this seed preparatory for threshing.

O. W. Monson, Irrigation Specialist of Montana Experiment Station, was here during the week making a topographic map of all our irrigated fields so that the entire irrigation system can be improved. A snow course was laid out at the lease about 20 miles distant, from which determinations will be made during March and April of each year as to the water content of the accumulated snow in the Bear Paw Mountains.

Maximum temperature, 76°; minimum, 35°; precipitation, 0.59 inch.

MOCCASIN: (Report for the period September 22 to October 1, 1940.)

Precipitation was recorded on six of the last nine days. With lower temperatures and moisture winter sown grains have greatly improved. Some localities have reported frost, but to date none has been recorded at the Station.

The bunt nursery and the head selections of three winter wheat varieties have been planted. Fall plowing in the rotations was begun, this operation having been deferred for weeks because of the unfavorable dry conditions. Fall field work is nearly completed except for weighing corn fodder. Preparations are being completed for the winter pasture and feeding experiment. State College officials are making arrangements for the cattle. Other station work has consisted of odd jobs, painting, etc.

Laboratory reports show that our station crested wheatgrass grades 95 percent in germination and better than 98 percent in purity, contains no noxious weeds or seeds of other grains, and weighs 24 pounds to the bushel. All station seed has been graded "Fancy" and is so tagged with the blue registered tag of the Montana Seed Growers Association. To date there have been few calls for station crested wheatgrass seed which may be due to the large number of local farmers offering small lots of seed.

The total precipitation for September was 0.97 inch or about 70 percent of the station monthly average. The total precipitation for the year from January to October 1 is 9.59 inches which lacks 2.85 inches of equalling the station average. The mean temperature for the month was 61°, 7° above the station mean of 54°. Only one (1938) during the past 32 years has a warmer September been recorded.

Although conditions in this and local areas are not considered good, they have definitely improved during the week. Pastures of crested wheatgrass are beginning to respond to the available moisture.
Maximum temperature, 52°; minimum, 38°; precipitation, 0.43 inch.

HUNTLEY:

Light rains and cloudy skies during the first half of the week brought some encouragement to benchland farmers postponing the seeding of winter wheat until moisture was received. By mid-week planting was well under way throughout the area.

Precipitation at the station was much lighter than on the higher lands, and penetration into the soil did not reach the moisture line in fallowed land. Because of the late date, seeding of all fall grain plots, with the exception of the winter wheat smut nursery, was made during the week. A light, misty rain is falling again today, which may help the moisture situation.

The showers early in the week started a new growth of crested wheatgrass. Examination of the crowns reveals green leaves about an inch long. A new growth has also sprouted from Sudan grass and sorgo stubble.
Maximum temperature, 79°; minimum, 41°; precipitation, 0.30 inch.

SHERIDAN:

Light rain, about half the amount reported at Sheridan, occurred early in the week, and there was another light shower this morning(9/28). The remainder of the week was fair and temperatures still continued high for the season. Fall plowing of the rotations was completed the first of the week. Preparation for fall seeding was completed, and the winter wheat and rye were sown. More of the grain sorghum varieties was headed, leaving only some of one variety not fully ripe and harvested. That variety has been among the earliest in some years.
Maximum temperature, 82°; minimum, 42°; precipitation, 0.40 inch.

DICKINSON:

Rain on Saturday night and Sunday with two other light showers amounted to 1.76 inches for the week. Most of this fell Sunday in hard intermittent showers.

There was a little run-off, but the surface soil was well soaked.

All vegetation was refreshed and as a result of continued warm weather and good moisture supply, grasses have greened up rapidly. Some planting was done in the grass nursery.

Winter wheat and winter rye, planted in dry soil September 16, are beginning to show up.

Plowing on the rotations was started. A little dry soil was turned up in places, but the best job of plowing in several years will result.

Maximum temperature, 78°; minimum, 31°;precipitation,1.76 inches.

MANDAN:

Arboriculture - Collection of Russian olive seed has been carried on during the week. A fair crop is present on the station, but the seed is swollen in size more than usual. Nursery stock is putting on growth since the rain the first part of the week, and heavy frosts will be necessary before commencing digging operations.

Horticulture - The week was spent in pruning small fruits, measuring trees, and digging potatoes. The rain in the early part of the week put ground in good condition for potato digging. Warba was the highest yielding variety.

Agronomy - A good rain fell early in the week. This wet the soil down to 6 to 7 inches, and put it in good condition for seeding winter rye. Rye was seeded on the 25th, about 10 days later than normal. The weather was mild during the week.

Maximum temperature, 84°; minimum, 32°; precipitation, 1.03 inches.

BELLE FOURCHE:

The weather was cool, cloudy, and unsettled most of the week. Light to moderate rains were received on four days, with rain continuing into Sunday of the following week. Moisture has penetrated the loose dry surface soil to a depth of only 2 to 2.5 inches, but prospects for additional rain are good, and adequate moisture for the germination of fall grain appears assured.

Field work included late fall plowing of corn stubble and winter wheat plots, preparation and staking of fall grain plots for seeding, and harvesting of corn.

Maximum temperature, 79°; minimum, 41°; precipitation, 0.76 inch.

ARCHER:

The weather during the week was marked by fog, mist, and local showers. Precipitation was recorded every day, the total being 0.35 inch. These conditions were favorable for fall-seeded crops. The grass nursery seedings have emerged, and winter cereals are in excellent condition. The wet weather prevented the hauling of corn fodder from the rotation plots.

Station activities consisted of painting buildings and repairing fences and auto gates.

Maximum temperature, 71°; minimum, 39°; precipitation, 0.35 inch.

NORTH PLATTE:

A good shower of 0.42 inch fell Monday night at the table station. At the bench station only 0.05 inch was recorded. This moisture only wet the top soil about 3 inches, which was not enough to connect with the subsoil moisture in fallow. No wheat has been seeded, but the plots will be seeded next week. The Early Kalo on the fallowed plots was harvested during the week.

Ten agronomists from the Soil Conservation Service visited the station Thursday afternoon. A good crowd of farmers and stockmen attended the fall feeders' day on Saturday.

Maximum temperature, 80°; minimum, 44°; precipitation, 0.42 inch.

AKRON:

Monday afternoon 2.45 inches rain was recorded at the Airport Station about 4 miles south and 1 mile west of the station. At the same time the station received 1.00 inch. Sand Creek, south of the station, ran muddy for a time following this heavy rain on its south drainage slope. There was no run-off on the station from the weekly total of 1.44 inches. This will tend to insure fall survival of wheat seeded on this year's cropped land. The station has the best showing of winter wheat at this date of any time within recent years.

Sudan grass in rotation with the forage variety tests was cut during the week for the second time this year. Both cuttings were light in volume. Beans are being pulled as they ripen. Grain sorghums are likewise being harvested as they ripen. Late seedings made June 24 are now ready for harvest. They actually could have been harvested a week ago with every assurance that the grain would complete development in the shock. These later date seedings of Improved Coes and Highland promise much heavier yields than those made June 11.

Maximum temperature, 82°; minimum, 43°; precipitation, 1.44 inches.

COLBY:

This week was mostly cloudy, cool, and fairly windy but dry. Precipitation was recorded on three days, but none of consequence. Localities in this section report rather heavy rains, however. Sorghums are maturing fairly rapidly. The feterita on the plots is about ripe, and the milo is almost ripe, except where it did not get a good start in the spring. The Sumac sorgo is beginning to redden. The kafir heads are very immature.

Winter wheat is up to good stands on fallowed plots, but stubble and row crop plots dried out before much of the seed could germinate. Most of the others are up to good stands, but some are spotted. There is some grasshopper damage next to some of the stubble plots which have a growth of thistles. The wheat that is up is making a rapid growth.

Dean Call and Professors Hyde and Begthol of Manhattan visited the station Friday and Saturday. Over 200 vocational agriculture students from high schools in the surrounding counties visited the station the first three days of the week to view the sorghum experiments.

Maximum temperature, 83°; minimum, 41°; precipitation, 0.02 inch.

HAYS:

The first part of the week was cloudy, cold, and damp. A very good rain occurred the first of the week, and the temperature dropped to about 45° three different nights. The rain amounting to 2.21 inches on the project fell during portions of three days. The precipitation was general over a large area but varied greatly in amount.

The rainfall was very gentle and practically all of it entered the ground. This was very fine for the wheat that has been seeded and places the surface soil in an excellent condition for drilling fields that have not yet been seeded. The soil is too wet for seeding today. During the week all preliminary preparation including staking of the plots for seeding of the wheat was completed, however, inspection of the plots today indicated a new crop of volunteer wheat is emerging and it

now appears that it may be necessary to surface work many of the plots again before drilling. About 300 pounds of poison bait has been spread on the project during the week in an effort to destroy grasshoppers before the wheat is drilled.

Heading of the sorghums plots where the stover is to remain on the ground was commenced this morning.

Maximum temperature, 95°; minimum, 46°; precipitation, 2.21 inches.

GARDEN CITY:

Rains fell on four days during the week and totaled 1.01 inches. This put the soil in excellent condition for wheat seeding, and farmers who have been waiting for a rain can now complete their seeding. Sorghums are ripening rapidly and most of them should mature satisfactorily.

Field work consisted of cultivating plots to destroy volunteer barley, binding and shocking corn, taking soil moisture samples, and preparing for Field Day.

Field Day was held on Thursday, and over 200 farmers and business men visited the station. Other visitors were J. B. Sieglinger, Woodward, Okla., J. C. Mohler, Secretary of the Kansas State Board of Agriculture; and D. A. Wilbur, J. R. Parker, H. D. Hollembeak, H. H. Laude, L. E. Melchers, and Earl Hensing, of Kansas State College.

Maximum temperature, 84°; minimum, 45°; precipitation, 1.01 inches.

TUCUMCARI:

Continued drought and much cooler temperatures marked the week. Late sorghums which promised to make good yields up to a week ago have been severely hurt by drought and are drying ripe. Range grasses are curing fast, hastened by lack of moisture.

Station work included harvesting cowpeas, broomcorn, and corn, making final stalk counts on sorghums, and threshing beans. Binding of some of the early sorgos and heading or binding of grain sorghums will be undertaken next week.

Maximum temperature, 88°; minimum, 48°; precipitation, none.

Precipitation for the past five weeks, 0.17 inch.

DALHART:

A rain of 0.49 inch was received during the week, but it could hardly be said to have relieved the drought situation. In hopes that additional moisture might come before the moisture from this shower was dissipated the winter wheat and the rye plots (other than those following cowpeas) were seeded. Other work during the week consisted largely in harvesting Sudan grass in the west field, weed mowing and hoeing, and taking height and stalk and head counts on sorghum plots. The soybean plots were harvested, they are nearly a total failure. The cooperative Scarborough broomcorn selection plot was visited and seed for planting in 1941 selected. It now appears that some progress is being made in this selection work.

A small increase field of a selection of Wheatland milo which was originally made here is the most attractive experiment on the station this year. This shows milo disease resistance and earliness; it remains to be tested for yieldability.

A small increase field of Sedan kafir shows a difference rather hard to explain. One-half of this field which was planted in Sedan kafir in 1939 shows a much better crop than the other half which was in a late planting experiment with sorghums in 1939.

An increase of Beaver milo, a resistant selection made at this station, shows considerable promise for uniformity, earliness, and adaptability. This also is now ready for yield comparison tests.

The sorghum varieties on fallow are beginning to mature. The rotation sorghums apparently will not fully mature before frost.

Maximum temperature, 86°; minimum, 45°; precipitation, 0.49 inch.

BIG SPRING:

A continuation of dry weather is causing cotton to open rapidly and grain sorghums to ripen prematurely. The foliage of the sorghums is drying up before grain in the heads is hard enough to harvest. Normally a considerable acreage of wheat is planted during September to be used for winter and early spring grazing, but this year no plantings have been made, as there was no moisture for germination.

All the kafir plots in the rotations as well as many of the plots in the varietal dates have been harvested. All forage sorghums in the May 15 and June 1 plantings have also been harvested. With the exception of Leoti, none had produced any heads. Cotton picking has required most of the time during the week; during this time the varieties and most of the spacing cotton has been picked over.

Station visitors included H. P. Smith and M. H. Byrom of the Division of Agricultural Engineering and D. T. Killough of the Agronomy Department of the Texas Experiment Station.

Maximum temperature, 88°; minimum, 41°; precipitation, none.

WOODWARD:

A long awaited change to more favorable weather attended by the most beneficial precipitation in many months typified conditions during the past week. Rainfall totalling 1.21 inches on the 22nd followed by partly cloudy skies and lower temperatures has been very helpful to vegetation in general and has also supplied ample soil moisture for the germination of fall sown grain.

Winter wheat plots in the tillage method project are being prepared for seeding next week, several increase blocks of Cheyenne having been planted. Open areas in and around windbreaks and vineyards, and certain roadways and other exposed places in the experimental fields were drilled to wheat for the prevention of soil blowing during winter months. The September 15 planting of wheat and barley has now fully emerged. First ripe jujubes have been picked, and a number of species of Liatris are blooming profusely.

Routine reseedings made on depleted range and abandoned farm land included such grasses as Canada wild rye, Indian rice grass, and needle grass. Extensive collections of seed have been obtained from nurseries and increase blocks. Additional forage samples of range grass and browse plants from the experimental unit were sent to the Agricultural Chemistry Research Department of the Oklahoma Experiment Station for analyses.

Maximum temperature, 80°; minimum, 45°; precipitation, 1.24 inches.

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